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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,975	11/13/2003	Masatake Usui	00684.003554	6760

5514 7590 05/12/2005

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EXAMINER

CHEN, SOPHIA S

ART UNIT	PAPER NUMBER
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2852

DATE MAILED: 05/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/705,975	USUI ET AL.	
	Examiner	Art Unit	
	Sophia S. Chen	2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/9/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. Figures 8 and 17 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: R11 (Figure 1), t (Figures 2, 13, 20), 31a, 31b, 31c (Figure 13), and 95 (Figure 20). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

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the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because of the following informalities:

a. Reference character "11" has been used to designate both "a fixing film" (page 43, line 10, etc. and Figure 13) and "a photosensitive member" (page 46, lines 18-19 and Figure 18).

b. Reference character "22" has been used to designate both "a pressure application stay" (page 23, line 9, etc. and Figures 3 and 4) and "a primary charging roller" (page 47, lines 4-5 and Figure 18).

c. Reference character "31" has been used to designate both "a pressure roller" (page 43, line 27, etc. and Figure 13) and "an exposing apparatus" (page 47, line 7 and Figure 18).

d. Reference character "41" has been used to designate both "a heater" (page 44, line 18 and Figure 13) and "a developing apparatus" (page 48, line 27, etc. and Figure 18).

e. Reference character "43" has been used to designate both "a ridge providing member" (page 44, line 27 to page 45, line 1, etc. and Figures 13, 14, and 15) and "a developing apparatus" (page 48, line 27, etc. and Figure 18).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to because the sectional cross-hatching of reference numerals 23a, 23b (Figures 3 and 4), 30 (Figure 4), 40 (Figures 4, 7(b), and 11), 40' (Figure 8(b)), 41 (Figure 15), and 43 (Figures 14 and 15) is incorrect. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The abstract of the disclosure is objected to because the abstract exceeds 150 words. Correction is required. See MPEP § 608.01(b).

6. The disclosure is objected to because of the following informalities:

- a. Page 10, line 14, 100 should be 1000.
- b. Page 10, line 20, 100 should be 1000.
- c. Page 11, line 11, 1002b should be 1002d.
- d. Page 12, line 9, 101 should be 1009.
- e. Page 16, line 6, 100 should be 1000.
- f. Page 19, line 4, 14 should be 1014.
- g. Page 19, line 6, 14 should be 1014.
- h. Page 20, line 10, 100 should be 1000.
- i. Page 22, line 13, 30 should be 30a.
- j. Page 22, line 16, 30 should be 30c.
- k. Page 22, line 21, 100 should be 1000.
- l. Page 22, line 25, "70.^o" should be "70°."

Appropriate correction is required.

7. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is

requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

8. Claims 1-11 are objected to because of the following informalities:
- a. Claim 1, line 1, "heating and" should be "heating an".
 - b. Claim 7, last line, "Centigrade*" should be "Centigrade".
 - c. Claim 8, line 1, "heating and" should be "heating an".
 - d. Claim 8, line 9, "and image is" should be "and the image is".
 - e. Claim 11, line 1, "heating and" should be "heating an".
 - f. Claim 11, line 9, "and image is" should be "and the image is".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-3 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Forlani (US Pat. No. 5,319,425).

The patent discloses an image heating apparatus for heating an image 12 formed on a recording material 8, comprising: a flexible rotatable member (a belt) 2; a slidable member 22 for sliding contact with an inner surface of the rotatable member 2 (Figures 2 and 3); a back-up member 30 for forming a nip S with the slidable member

22 with the rotatable member 2 interposed therebetween, wherein the nip S is effective to nip and feed the recording material 8, and the image 12 is heated by heat 15 supplied from the rotatable member 2 (Figure 1); wherein a projection 36 extended along a longitudinal direction of the rotatable member 2 (and in a range of the nip S) and provided on such a portion of a sliding surface of the slidable member 22 as is downstream of a center of the sliding surface with respect to a recording material feeding direction F in which the recording material 8 is fed, and wherein the projection 36 is effective to provide a maximum pressure in a distribution, with respect to the recording material feeding direction F, of pressure applied to the nip S (column 2, lines 58-61; column 3, lines 4-9 and 17-20; Figures 2 and 4); a portion 20 of the sliding surface upstream of the center with respect to the recording material feeding direction F is substantially flat (Figures 2 and 4); the projection 36 has a substantially triangular cross-section (Figure 2); and the slidable member 22 includes a heater 15.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forlani in view of Setoriyama et al. (US Pat. No. 5,525,775; cited in Form PTO-1449)

Forlani, as discussed above, differs from the instant claimed invention in not disclosing the projection has a substantially rectangular cross-section.

Setoriyama et al. discloses an image heating apparatus comprising: a rotatable member 21; a slidable member 20; a back-up member 10; and a projection (Figure 7, no reference numeral assigned) has a substantially rectangular cross-section.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the substantially rectangular cross-section as taught by Setoriyama et al. in place of the substantially triangular cross-section of the projection of Forlani because of the same functionality for pressing the recording material.

14. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forlani in view of Zhou et al. (US Pat. Pub. No. US 2002/0146259 A1).

Forlani, as discussed above, differs from the instant claimed invention in not disclosing the rotatable member includes a metal layer, and the apparatus comprises magnetic field generating means for generating heat by electromagnetic induction in the metal layer of the rotatable member.

Zhou et al. discloses an image heating apparatus comprising: a rotatable member (a fixing belt) 10 having a metal layer (paragraph [0032]); a slidable member 40; a back-up member 30 (Figures 4 and 7); and heat being generated by either magnetic field generating means 17a, 17b, 18 (paragraph [0080] and Figure 4) or a ceramic heater (paragraph [0096] and Figure 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply rotatable member having a metal layer and the magnetic field generating means as taught by Zhou et al. in place of the rotatable member and heater of Forlani because of the same functionality for fusing the toner image on the recording material.

15. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forlani in view of Ohno et al. (US Pat. No. 5,942,366)

Forlani, as discussed above, differs from the instant claimed invention in not disclosing the toner has a Melt Index of 3-50 and a glass transition point of 50-80 Centigrade.

Ohno et al. discloses an image heating apparatus comprising a rotatable member (a fixing belt) 22; a slidable member 27; a back-up member 23 (Figure 4); and the toner has a Melt Index of 3-50 (5-25; column 11, lines 29-30) and a glass transition point of 50-80 Centigrade (50-70; column 11, lines 42-44).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the toner as taught by Ohno et al. in place of the toner of Forlani to improve fixability and anti-offset characteristic, to provide high-quality toner

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images, and to be excellent in long-term storage stability (column 5, lines 1-4; column 11, lines 30-31 and 44-45).

Allowable Subject Matter

16. Claim 11 is allowable over the prior art; however, it is found to be objectionable for the reason(s) specified above.

17. The following is a statement of reasons for the indication of allowable subject matter: claim 11 is allowable over the prior art of record because the prior art of record does not teach or suggest a second rotatable member disposed within the range of the nip and downstream of the slidable member with respect to the recording material feeding direction, wherein the second rotatable member is effective to provide a maximum pressure, in combination with the remaining claimed limitations.

Other Prior Art

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Field et al. (US Pat. No. 5,053,829) discloses an image heating apparatus comprising a rotatable member; a slidable member; a back-up member; and a downstream portion of the slidable member is effective to provide a maximum pressure in distribution.

Yamamoto et al. (US Pat. No. 5,267,005) discloses an image heating apparatus comprising a rotatable member; a slidable member; and a back-up member.

Yoshimoto et al. (US Pat. No. 5,874,710) discloses an image heating apparatus comprising a rotatable member; a slidable member; a back-up member; and a projection.

Choe et al. (US Pat. No. 6,090,516) discloses an image forming apparatus comprising a toner having a glass transition point of 40° – 120°C and a melt index.

Okubo et al. (US Pat. No. 6,627,368 B2) discloses an image forming apparatus comprising a toner having a glass transition point of 40° – 90°C and a melt index of from 10 to 150 g/10 min.

Niimura et al. (JP 2001-324886A) discloses an image heating apparatus comprising a rotatable member; a slidable member; a back-up member; and a downstream portion of the slidable member is effective to provide a maximum pressure in distribution.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sophia S. Chen whose telephone number is (571) 272-2133. The examiner can normally be reached on M-F (7:00-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sophia S. Chen
Primary Examiner
Art Unit 2852

Ssc
May 10, 2005